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The Ohio State/Wilberforce University Team Takes Home First Place in Year Two of the EcoCAR EV Challenge

Georgia Tech and McMaster University round out the top three placing teams

PHOENIX, May 23, 2024 – The Ohio State/Wilberforce University Team has been named the Year Two champion of the EcoCAR Electric Vehicle (EV) Challenge, followed by Georgia Tech in second place and McMaster University (CA) in third place. The Year Two competition challenged teams to complete a series of vehicle events, comparable to tests automakers conduct, to ensure the vehicles perform as expected. Teams also presented to judges in several categories.

A leader in automotive engineering education, the EcoCAR EV Challenge is a cross-disciplinary competition among 15 North American universities designed to build an EV talent pipeline and is managed by Argonne National Laboratory and sponsored by the [U.S. Department of Energy](#) (DOE), [General Motors](#) (GM), and [MathWorks](#). In Fall 2023, teams received their 2023 Cadillac LYRIQ that they are reengineering to complete complex, real-world technical EV challenges, including enhancing the propulsion system to optimize energy efficiency, while maintaining consumer expectations for performance and driving experience for the remainder of the EV Challenge.

“I’m proud that our office is able to celebrate this important milestone, where the vehicles underwent technical inspection, baseline testing, and subsystem designs to ensure their readiness for the final competition,” stated Dr. Austin Brown, Vehicle Technologies Office Director at the DOE. “During Year Two of the EV Challenge, teams focused on completing propulsion and connected and automated vehicle system components vehicle integration. I can’t wait to see how the teams modify the vehicle using their new skills – both in this competition and in their careers after.”

Vehicles are expected to pass an On-Road Safety Evaluation (ORSE), acceleration test, endurance and energy consumption (EEC) test and longitudinal control test to evaluate the vehicle’s dynamic handling characteristics and verify the ability of the vehicle to safely perform maneuvers it would face in real-world driving situations. Teams also identified any areas of improvement as they look ahead to year three.

The Ohio State University and Wilberforce University EcoCAR team partnered together to compete in the EcoCAR EV Challenge, and the team strives to provide students with the skills and experience necessary to push the envelope of vehicle and sustainable technology, embrace diversity and foster a competitive spirit in both the competition and in their future careers. The winning team scored 781 out of 1,000 total points. Georgia Tech received 756 points and McMaster University trailed by just six points with 750 points.

“Congratulations to Ohio State and Wilberforce University team on their win,” Chris Trush, Director - Automated Driving and Active Safety Application Software at GM. “As a long-time sponsor of Advanced Vehicle Technology Competitions, it is exciting to present the teams with EVs and be a part of the hands-on opportunity students receive as they gather the necessary skills as they pursue careers in the



automotive industry. We are looking forward to watching the students continue to grow and hone these skills throughout the remainder of the competition.”

The Tear Two final competition took place in two parts – May 13-18 in Yuma, Ariz. at General Motors Desert Proving Ground and May 19-22 in Phoenix.

“This year, MathWorks provided students with a deep stack of simulation, testing, and validation products to control their newly integrated propulsion systems and controls software on their LYRIQs,” said Lauren Tabolinsky, Worldwide Student and Academic Programs Manager at MathWorks. “It’s exciting to see the students use a rich set of Model-Based Design tools to build and test their designs as they expand their knowledge of the automotive industry.”

For more information about the EcoCAR EV Challenge, please visit avtcseries.org.

About EcoCAR EV Challenge:

Managed by Argonne National Laboratory and sponsored by DOE, General Motors, and MathWorks, the EcoCAR EV Challenge is a four-year collegiate engineering program that builds on the successful 35-year history of Department of Energy Advanced Vehicle Technology Competitions (AVTC), which exemplifies the power of government/industry partnerships to address our nation’s toughest energy and mobility challenges and provide practical skills to the future leaders of the transportation workforce. More than 30,000 students from 111 unique educational institutions have participated, seeding the industry with engineers who have helped redefine the automobile over the last three decades.

The U.S. Department of Energy and its research and development facility, Argonne National Laboratory, provide competition management, team evaluation and logistical support. Other sponsors provide hardware, software, and training.

General Motors provides each of the competing teams with a Cadillac LYRIQ – the brand’s first all-electric vehicle built on GM’s Ultium Platform which encompasses a common set of propulsion components – battery cells, modules, packs, and a family for Ultium Drive units. GM also provides vehicle components, seed money, technical mentoring, and operational support.

A foundational principle of EcoCAR is the use of Model-Based Design, a mathematical and visual design approach using MATLAB and Simulink that enables users to manage projects quickly and cost-effectively, collaborate on designs, and develop complex embedded systems. MathWorks provides teams with a full suite of software tools, simulation models, training, technical mentoring, and operational support.

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